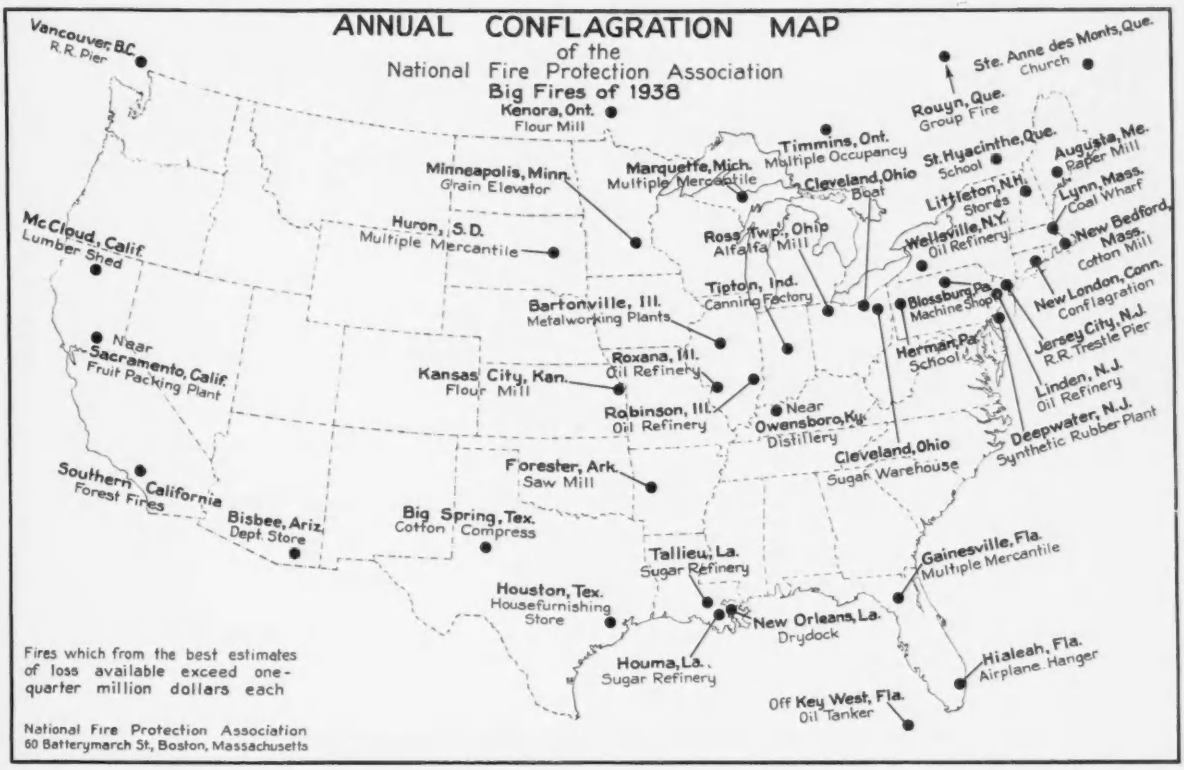
Volunteer Firemen

FEBRUARY 1939

NATIONAL FIRE PROTECTION ASSOCIATION
60 Batterymarch Street INTERNATIONAL Boston, Massachusetts


ANNUAL CONFLAGRATION MAP
of the
National Fire Protection Association
Big Fires of 1938
Vancouver, B.C. R.R. Pier
Kenora, Ont. Flour Mill
Minneapolis, Minn. Grain Elevator
Marquette, Mich. Multiple Mercantile
Timmins, Ont. Multiple Occupancy
Cleveland, Ohio Boat
Rouyn, Que. Group Fire
Ste. Anne des Monts, Que. Church
St. Hyacinthe, Que. School
Augusta, Me. Paper Mill
Littleton, N.H. Stores
Lynn, Mass. Coal Wharf
Huron, S.D. Multiple Mercantile
Ross Twp., Ohio Alfalfa Mill
Wellsville, N.Y. Oil Refinery
New Bedford, Mass. Cotton Mill
McCloud, Calif. Lumber Shed
Tipton, Ind. Canning Factory
Blossburg, Pa. Machine Shop
New London, Conn. Conflagration
Bartonville, Ill. Metalworking Plants
Herman, Pa. School
Jersey City, N.J. R.R. Trestle Pier
Near Sacramento, Calif. Fruit Packing Plant
Roxana, Ill. Oil Refinery
Kansas City, Kan. Flour Mill
Linden, N.J. Oil Refinery
Robinson, Ill. Oil Refinery
Near Owensboro, Ky. Distillery
Deepwater, N.J. Synthetic Rubber Plant
Cleveland, Ohio Sugar Warehouse
Forester, Ark. Saw Mill
Southern California Forest Fires
Bisbee, Ariz. Dept. Store
Big Spring, Tex. Cotton Compress
Tallieu, La. Sugar Refinery
Gainesville, Fla. Multiple Mercantile
Houston, Tex. Housefurnishing Store
New Orleans, La. Drydock
Houma, La. Sugar Refinery
Hialeah, Fla. Airplane Hanger
Off Key West, Fla. Oil Tanker
Fires which from the best estimates of loss available exceed one-quarter million dollars each
National Fire Protection Association
60 Batterymarch St., Boston, Massachusetts

MORE BIG FIRES IN 1938

THE number of large fires markedly increased during 1938, and the general level of fire losses increased slightly over 1937. The 1938 Annual Conflagration Map released by the N. F. P. A. in January shows 36 fires in the United States and 6 in Canada as against a total of 25 for the previous year. The total United States losses are estimated to have been $303,000,000, an increase during 1938 of $19,000,000, and Canadian losses were $24,250,000 an increase of $1,500,000.

The fire loss totals are but the sum of the fire damage experienced by all of the communities in the country. Fires are not limited to any one part of the country, nor to large cities rather than small towns. The map showing the location of the largest fires includes communities of all sizes and shows that a good fire record for the whole country can only be achieved when every city turns in a good record.

Every one of the large fires included in the record is an example of the violation of elementary principles of fire safety. The cotton compress which burned at Big Spring, Texas, was a huge-area building occupying an entire city block and housing 13,000 bales of cotton. The lumber shed which burned at McCloud, California, contained 12,000,000 feet of pine lumber in a single building. In both cases the large loss is attributable to the simple fact that there was too much of combustible material piled up in one place. Water supplies and other fire protection proved too pitifully inadequate. Four fires in oil refineries are further examples of the same thing. These plants were so arranged that any fire was likely to involve the burning of considerable stocks of flammable liquids, whereas it is possible to arrange such a plant so that a fire may be confined to one or two tanks, instead of involving the entire plant.

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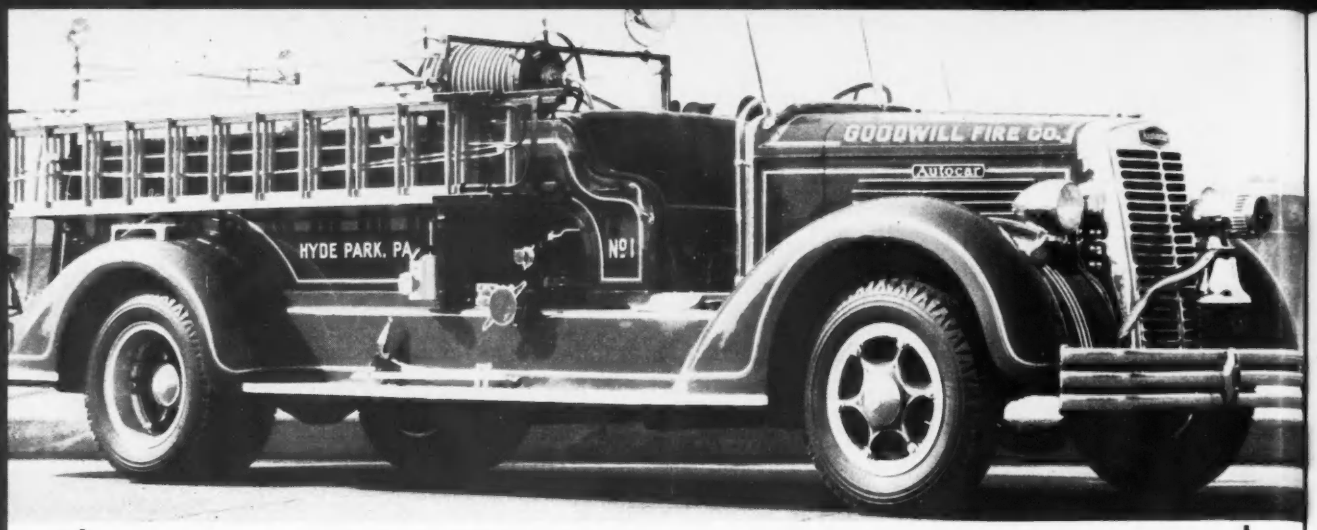

Triple Combination with Hale 500-gal. Centrifugal Pump, built by Autocar to meet the specifications of Good Will Fire Company of Hyde Park, Pennsylvania.

Ask Any Experienced Fire Official Whether He Prefers Custom-Built Equipment

Every experienced fire official, whether paid or volunteer, knows the fire hazards of his own locality, the bad spots of which ordinary citizens are unaware. He realizes that he must have equipment capable of meeting both the normal and the emergency demands of his own region.

That is why many of them prefer Autocar Fire Apparatus—because they can order it to be custom-built to meet individual requirements of either large and congested cities or smaller, more open towns.

Autocar Apparatus is custom-built in all sizes, up to 750-gal. Triples and Quads. It is streamlined and deluxe in its design and appointments. Its high quality and stamina are based on many years of practical experience. It wins prizes for good appearance and efficiency as easily as it passes all the Underwriters' Tests.

Autocar always invites the closest comparison of specifications with all other makes, and that includes prices as well.

Write to us today for photographs of Autocar Apparatus now in active service. We will send all details with photographs, including the names and addresses of the fire companies of whom you may inquire direct, if you wish.

AUTOCAR FIRE APPARATUS

The Autocar Company, Ardmore, Pa.

Established 1897

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

AN ASSEMBLY OF 1½ INCH HOSE FOR THE BOOSTER TANK

MOST firemen are quite familiar with the general advantages of using 1½-inch hose as a leader line to reduce down 2½-inch lines for easy handling on inside work and as a means of reducing water damage. There is another type of 1½-inch rig that has a lot of value in built-up districts, particularly as a life saving unit for fast spreading dwelling and tenement fires. The special use of 1½-inch hose referred to is as a first aid line directly connected to the booster tank on the apparatus. Several departments have found that as a booster line 1½-inch hose packs a punch sufficient to knock down many a tenement fire which is beyond the control of ordinary booster equipment. It enables the fire department to make an effective showing in the important first moments while the big lines of 2½-inch hose are being laid.

There is probably no experience that veteran fire fighters dread more than to pull up at a blaze in a crowded dwelling or tenement and find that flames have already cut off the only stairway by which the occupants can escape. Persons in the street are frantically screaming for the fire department to do something to save the occupants. They do not realize that it takes a measurable amount of time to lay a big line, connect a pumper to the hydrant, remove sufficient 2½-inch hose from the apparatus, attach a nozzle and get an effective stream. Even if the standard booster hose is quickly used, it looks to the public about like a garden hose and frequently appears ineffective and futile when lives are at stake. No matter how quickly ladders may be raised and how much personal risk firemen may take in searching for possible victims, a storm of criticism is sure to land upon the firemen's heads if a single life is lost, regardless of how hopeless conditions may have been at the time the apparatus arrived. The public is so well sold with ideas of fire department efficiency that they instinctively expect that the fire will be instantly controlled the very moment the fire department appears on the scene. If someone is trapped by fire an angry feeling of frustration frequently causes the public to unjustly criticize the firemen.

Fire fighters know that in most buildings the stairway is the life-line which they must control to permit access to the structure and allow the safe escape of occupants. One of the old standby rules for fire fighting of this sort is that the first line should "make the stairs" and this is doubly important in a job where lives are at stake. Where a fire department uses 1½-inch hose supplied by the booster tank it can instantly place an effective stream in operation while the big line is being laid. The public is favorably impressed when they see the substantial line of 1½-inch cotton rubber lined hose quickly put into action and throwing a stream which can blacken a hot fire in short order.

Note that with this rig a ⅜-inch nozzle is used instead of the ½-inch or larger size which is used on most other 1½-inch hose lines. A ½-inch tip uses water just a little too fast for the average booster tank. The ⅜-inch tip discharges 27 to 30 gallons per minute with a good stream. This is more than twice the stream the booster line will deliver with a ¼-inch nozzle. It should be noted further that this arrangement of 1½-inch hose need not take the place of the booster line. It's simply a special hookup for certain special circumstances such as those mentioned. At the vast majority of fires the booster line will be all that is needed. But here's a means of getting more water than the booster line can give you when that water is needed in the first few minutes.

With a ⅜-inch nozzle tip a standard 100 gallon booster tank would supply a stream for well over three minutes. If it appears that more water will be needed there is time to connect a hydrant line into the booster tank. Of course, good practice dictates that first aid equipment must always be backed up by a big line as a precautionary measure.

One important advantage in using 1½-inch hose to attack dwelling and tenement fires is that it can be easily handled by a small crew. For example, when a big line is used in the initial attack on a fire in a hall or stairway it is slow hard work to follow the fire up because once the line has been charged it requires a lot of labor to advance it upward. Where the 1½-inch hose is used it is a comparatively simple matter to keep the line moving upward as fast as the fire is knocked down.

In spite of the increased fire fighting power which can be obtained from the booster tank by using 1½-inch hose with a ⅜-inch tip, this stream in the hands of a good fireman will cause no appreciable increase in water loss because with a shut-off nozzle no more water than necessary need be used.

It will occur to most readers that there will be an obvious advantage of having apparatus with this hookup equipped with a booster tank of 150 gallons or more. It's a simple matter to arrange the discharge connections of the booster tank so that both the regular booster line and the special 1½-inch line are supplied. The crew can go into action with whichever line appears to best fit the fire in question.

If a 150 gallon or larger water tank is available it might be desirable to have available a ½-inch tip on the 1½-inch booster lines in particularly hazardous sections. This may be accomplished by using a nozzle from which the ⅜-inch tip can be quickly removed leaving a ½-inch base tip.

This particular rig is not recommended for rural areas. In most rural fires water must be used sparingly because there is not always a hydrant or other supply conveniently available. If the apparatus is equipped with an extra large water tank for special service in rural areas where water supplies are known to be scarce, the hookup might be applicable. Many fire companies in suburban areas with tenements or apartments to protect are likely to find this suggested arrangement of practical value. It may help to bridge the rather considerable gap between the booster line and the standard 1½ and 2½-inch hose lines.

Fundamental Principles of Dust Explosion Prevention

FIRE departments holding N.F.P.A. membership have received a copy of the recently published Regulations on the Fundamental Principles for the Prevention of Dust Explosions prepared by the Dust Explosions Hazards Committee of the N.F.P.A. Firemen desiring to obtain a copy or wishing an extra copy may obtain it upon request.

Laboratory tests have shown that practically all combustible materials when finely divided and suspended in air in the proper concentration can produce violent explosions. For example, there are on record cases of dust explosions in plants handling such materials as grain, flour, feed, starch, sugar, powdered milk, insecticides, fertilizers, wood dust, soap powder, paper dust, cocoa, spices and many other products. It is estimated that there are more than 28,000 industrial establishments in the United States and Canada which are subject to the dangers of serious dust explosions. Members of plant fire brigades and volunteer firemen who work in such industrial plants or who may be called upon to fight fires in them should be familiar with the importance of this hazard.

Sections of the new regulations of particular interest to firemen contain suggestions on fire prevention and fire extinguishing procedure. Due to the danger of stirring up dangerous concentrations of dust if dust deposits are hit by a solid stream, the regulations outline the desirability of using spray or fog nozzles for this type of fire fighting. There is also information as to possible sources of ignition which may cause explosions.

Other sections cover the proper venting of buildings and equipment so as to minimize the damage should explosions occur. Special precautions are also outlined for preventing explosions in such equipment as grinders, elevators, conveyors, dust collectors, bins and hoppers, blower and exhaust fans and other points in industrial plants where explosions are most likely to occur. The proper type of building construction and housekeeping practices essential to safety from dust explosions are also outlined.

At previous times the N.F.P.A. Committee in cooperation with the U. S. Department of Agriculture have prepared safety-codes for the prevention of dust explosions in specific occupancies such as starch factories; flour and feed mills; and terminal grain elevators. All of these codes have been published by the U. S. Department of Labor in Bulletins No. 562 and No. 617, and some in separate pamphlet form by the National Board of Fire Underwriters and the N.F.P.A.

Robert M. Cameron

Narberth, Pa. Firemen Honor Late Chief

THE Narberth, Pennsylvania, Fire Company has adopted a conspicuous means of perpetuating the memory of the man who was their chief for 28 years. Chief Charles V. Noel lost his life due to asphixiation while fighting a fire in Merion, Pennsylvania, the day after Christmas, 1937. A handsome bronze plaque bearing the likeness of the Chief has been placed on the front wall of the fire house at the main entrance to the Borough offices where Chief Noel had served as the clerk of the Borough Council for a quarter of a century. The plaque was presented by the active members of the Narberth Fire Company, a volunteer organization, with appropriate ceremonies attended by former friends including fire department and public officials. The Chief's widow unveiled the memorial which was the work of an artist connected with the Barnes Foundation of Merion, Pennsylvania.

A Problem Question FOR FEBRUARY

Suggested for discussion at company and department meetings this month

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What precaution should be taken to prevent accidents while placing a roof ladder?

The answer to the problem question for January will be found on page 6.

Contrasts in Airplane Hangar Fires

SOME readers will remember the front cover picture of the June, 1938, issue of VOLUNTEER FIREMEN. This was a spectacular view of the fire which destroyed the principal hangar of the Miami Municipal Airport at Hialeah, Florida, on April 2. The Miami hangar was a modern one and had the usual supply of fire extinguishers and was protected by watchman service. Long before the fire department could possibly arrive at the airport the building was all ablaze. Furthermore, the firemen found that there was not enough water to supply hose streams to control a fire of such magnitude. The huge hangar containing ten valuable airplanes was destroyed with a loss of $360,000.

This is no reflection on the fire department operations. It emphasizes, however, that ordinary fire fighting facilities are likely to be inadequate when too much quick-burning material is crowded together in one place. Even if the fire department had been right next door instead of several miles away, it is doubtful if a much better account could have been given at the fire through manual fire fighting efforts alone. Airplane hangars involve such unusual fire hazards as high-test aviation gasoline and flammable doping compounds used in airplane fabric. Airplane hangars are usually large open areas and fire is likely to involve the entire building in a flash. There just is not time to assemble firemen and lay hose lines before it gets to be too big to be controlled by water from hose streams.

FOR the protection of hangars, automatic sprinkler systems have long been recommended. In sharp contrast to the Miami airport fire is one which occurred in the Shushan Airport at New Orleans on Armistice Day. The fire occurred in a hangar containing 32 planes, representing a total value of $450,000. The fire started and threatened to flash through the building, but was controlled by a sprinkler system of the modern "deluge" type with a loss of $1,700.

The Moffett hangar where the fire occurred was a structure 200 feet long and 100 feet deep. It was crowded with airplanes. Wing surfaces overlapped so that fire could readily spread from one to another. The ceiling of the hangar is divided into four areas. In each of these areas there are 72 sprinkler heads.

This modern hangar at the Shushan Airport, New Orleans, is equipped with a deluge type sprinkler system with rate-of-rise thermostatic control. The value of this protection was conclusively shown the evening of Nov. 11, 1938, when fire started on the freshly doped wing fabric of one of 32 planes closely nested in the closed hangar. The sprinkler system controlled the fire with only $1700 damage, with fire limited to one plane and overlapping parts of 2 others, as shown in inset.

The sprinkler heads are open and there is no water normally in the piping. Water can be turned into the pipes, however, by the operation of a so-called "deluge" valve. The valve is arranged so that it is tripped automatically by the operation of "rate-of-rise" heat actuated devices along the ceiling of the hangar. This is a special type of sprinkler system designed for flash fires which are expected in a hangar.

THIS fire started after closing hours when most of the mechanics had gone home. One man working in the hangar was anxious to speed the drying of nitrocellulose dope on airplane wings and decided to take a chance with the fire safety rules. He secured two 300-watt reflector lamps to hasten the drying. Heat from the lamps ignited the dope and the fire flashed over the wing of the plane. All by himself, the mechanic could not move the ship which was packed closely with others and did not even have time to get a fire extinguisher before the fire was too large to be controlled by a first aid device. There was a definite question as to whether he himself could get away from the fast spreading fire. However, the heat actuated devices on the ceiling responded almost immediately and tripped the deluge valve. This turned a devastating rain of water over the area of the hangar where the fire occurred. The water was coming from a 12-inch main backed by powerful fire pumps and was applied less than a minute after the first flash of fire. The fire only burned a wing off one plane, three-quarters of the wing off another plane and slightly damaged a third before it was stopped.

It is estimated that this automatic sprinkler deluge system put over 2,000 gallons of water a minute on the fire. Some idea of the importance of having private fire protection for airplane hangars can be seen by trying to imagine how long it would take a fire department to get eight 2½-inch hose streams hooked up, using the full capacity of two 1,000-gallon pumping engines.

NEW CATALOGUES

This department is for the convenience of readers who wish to be advised of new products or services in the fire field. When writing for catalogues please mention VOLUNTEER FIREMEN

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Akron Brass Mfg. Company, Inc., Wooster, Ohio. 92 pp. Catalogue No. 635 describing brass couplings and nozzles.

Aluminum Ladder Company, Tarentum, Pa. 16 page catalogue describing complete line of aluminum ladders.

American District Telegraph Company, 155 6th Ave., New York, N. Y. Two color, 30 pp., illustrated booklet, "Backing Up the Sprinkler." Describes sprinkler supervisory service.

American-La France-Foamite Corporation, Elmira, N. Y. Illustrated bulletin describing the new "Poweron Nozzle" throwing a discontinuous stream useful on electrical and oil fires.

Boston Coupling Company, Boston, Mass. Two color circular describing Roll-Pin hose couplings.

C. G. Braxmer Co., Inc., 242 West 55th St., New York, N. Y. 64 pp. catalogue describing Braxmer Badges.

Federal Electric Co., 8717 South State St., Chicago, Ill. Bulletin No. 62. Details of Federal sirens.

The Fyr-Fyter Co., Dayton, Ohio. Four page, two color bulletin describing 40 gallon "Instant" anti-freeze extinguisher for mounting on a truck or trailer.

Gamewell Co., Newton Upper Falls, Mass. Illustrated catalogue entitled, "The Three-Fold Fire Alarm System." Describing complete fire alarm central station and box equipment.

Maxim Motor Company, Middleboro, Mass. Three color, illustrated bulletin "Solving the Fire Problem," describing the new Maxim fully enclosed fire engine.

Mine Safety Appliance Co., Braddock, Thomas & Meade Sts., Pittsburgh, Pa. Bulletin No. DK-7 describing M.S.A. Winter Lining for M.S.A. "skullgard" helmets.

D. B. Smith & Co., Utica, N. Y. Catalogue describing Indian Fire Pumps for forest, brush, grass and spot fires.

Solvay Sales Corp., 40 Rector St., New York, N. Y. 28 page booklet describing anti-freeze fire equipment for industrial plants, warehouses, and farms.

FIRE ALARM HOOK-UPS FOR SUBURBAN *Mutual Aid*

WHEN a big fire occurs there is often delay in securing outside aid due to the lack of advance planning. The experience of many emergencies has been that when outstanding fires or other disasters have occurred, the telephone lines have been so swamped by calls of excited citizens that the fire department usually has a tough time in getting outside calls put through to adjoining departments. There is also frequent confusion due to unauthorized calls for help sent out by persons lacking authority. Other frequent delays are the necessity of obtaining official permission for apparatus to leave its own community and the fact that often certain nearby apparatus cannot be sent without leaving important areas unprotected.

Such handicaps to effective mutual aid can be readily overcome, however, by the simple expedient of extending local fire alarm wires into adjoining communities. Such fire alarm tie-ins can make mutual aid response between departments just as quick and effective as though they were a single operating unit.

An excellent example of the tremendous value of fire alarm equipment in promoting reliable inter-department mutual aid is shown by the results obtained in the greater Boston area of eastern Massachusetts. Twenty-seven fire departments have extended their fire alarm wires to adjoining communities. This enables each department to know immediately when a neighbor needs help. Apparatus automatically responds to alarms from adjoining communities in accordance with printed assignment cards. These assignment cards provide for joint response to border line boxes and to additional or simultaneous alarms. They also provide for automatic covering of unprotected areas. The plan has been so successful that it has grown to cover an area of 270 square miles and protects 1,750,000 persons.

The efficiency of this mutual aid setup is undoubtedly enhanced by the fact that in Massachusetts fire company officials obtain their promotions through competitive examinations conducted by the State Civil Service Commission. As a result the chief in charge at a fire knows that the officers of any outside companies assisting him are experienced and can be depended upon. Also the value of state-wide training programs is shown by the way that companies from various completely independent departments work together.

The greater Boston mutual aid arrangements are not based upon any one universal written plan but consist of numerous separate mutual aid agreements between various communities and their neighbors. Experience had shown that confusion frequently resulted from dependence upon the telephone as a means of obtaining outside help. The obvious solution was to extend fire alarm wires to adjoining communities so that neighboring departments would know when help was needed.

In the area north and west of Boston the network of fire alarm connections for mutual aid has spread until the area covered is now 25 miles long.

MANY other groups of neighboring fire departments in the United States and Canada could similarly give each other valuable aid. Each city would first have a good fire alarm system of its own. Cooperation could then be achieved by interconnecting the individual systems.

A large city fire department is not needed as the center for such an arrangement. As a matter of fact, the city of Boston plays a secondary role in the eastern Massachusetts system. Like all of the communities involved, Boston fire alarm headquarters receives alarms from adjoining departments and Boston apparatus answers some border line calls. Actually, however, the smaller departments collectively mass much greater fire fighting forces than could possibly be spared or be conveniently dispatched out of town by a single large city.

The total number of fire companies in the 27 Massachusetts communities giving each other assistance is approximately 165 engine and hose companies and 81 ladder companies. There are also many special pieces of equipment such as rescue, floodlight units and forest fire trucks. Only 50 of the engine companies and 31 of the ladder companies are part of the Boston Fire Department. The largest city controls only a third of the apparatus. Several contemplated fire alarm connections may eventually add several more departments to the cooperative network.

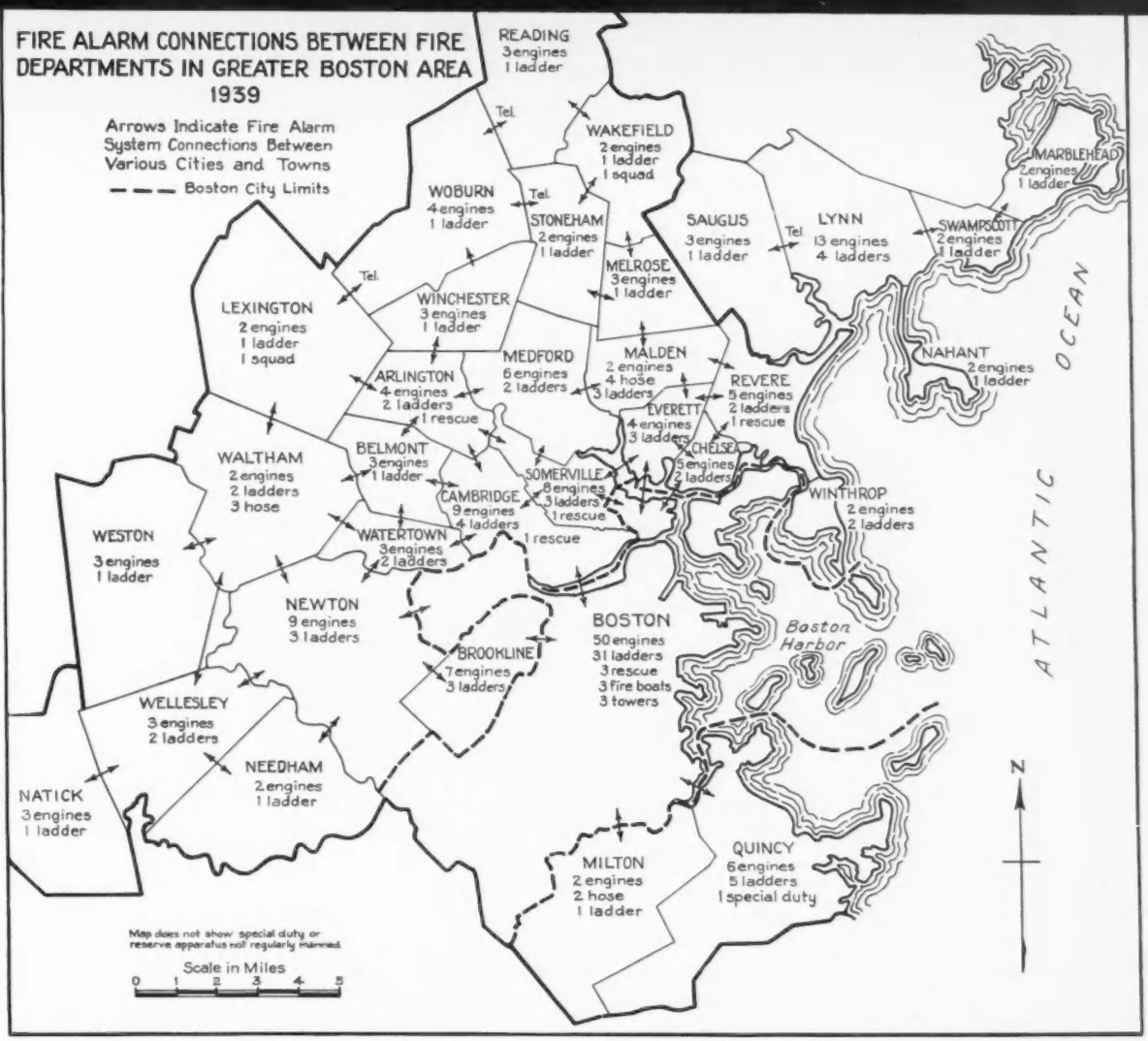
There are a number of advantages besides aid in fighting major conflagrations, which are made possible by the fire alarm extensions.

With the inter-department alarm extensions, calls for help can be handled without the confusion which might result through the use of telephone facilities, particularly where a single telephone exchange covers several municipalities. Difficulties due to unauthorized calls for aid or due to congested telephone lines are also eliminated. Only authorized fire department officials can transmit additional alarms for serious fires. The response to each call is not hit-or-miss but is in accordance with prearranged agreements between the various fire departments involved.

Boundary lines no longer hinder the response of the nearest apparatus. Running cards are designed to bring the nearest equipment regardless of which municipal alarm system is operated by the person discovering the fire. This is especially desirable when a citizen unknowingly crosses a municipal boundary to sound an alarm. Often the outside apparatus is located nearest to the fire and has it under control when the local equipment arrives.

Adequate response can be sent to simultaneous calls even though all of the local apparatus might normally be needed to answer one call. Without waiting for a special request the neighboring departments automatically send enough apparatus to make a normal response to each call.

Outside departments do not hesitate in sending aid because they know that their own areas will be covered by other departments and that apparatus will automatically be moved to cover vacated territory when necessary. When a neighboring town receives an outside alarm to which any of its companies must respond, it transmits a signal


FIRE ALARM CONNECTIONS BETWEEN FIRE DEPARTMENTS IN GREATER BOSTON AREA 1939
Arrows Indicate Fire Alarm System Connections Between Various Cities and Towns
Boston City Limits
READING 3 engines 1 ladder
WAKEFIELD 2 engines 1 ladder 1 squad
WOBURN 4 engines 1 ladder
STONEHAM 2 engines 1 ladder
MELROSE 3 engines 1 ladder
SAUGUS 3 engines 1 ladder
LYNN 13 engines 4 ladders
MARBLEHEAD 2 engines 1 ladder
SWAMPSCOTT 2 engines 1 ladder
NAHANT 2 engines 1 ladder
OCEAN
ATLANTIC
LEXINGTON 2 engines 1 ladder 1 squad
WINCHESTER 3 engines 1 ladder
MEDFORD 6 engines 2 ladders
MALDEN 2 engines 4 hose 3 ladders
REVERE 5 engines 2 ladders 1 rescue
EVERETT 4 engines 3 ladders
CHELSEA 5 engines 2 ladders
ARLINGTON 4 engines 2 ladders 1 rescue
BELMONT 3 engines 1 ladder
WALTHAM 2 engines 2 ladders 3 hose
SOMERVILLE 8 engines 3 ladders 1 rescue
CAMBRIDGE 9 engines 4 ladders 1 rescue
WINTHROP 2 engines 2 ladders
WATERTOWN 3 engines 2 ladders
WESTON 3 engines 1 ladder
NEWTON 9 engines 3 ladders
BOSTON 50 engines 31 ladders 3 rescue 3 fire boats 3 towers
Boston Harbor
BROOKLINE 7 engines 3 ladders
WELLESLEY 3 engines 2 ladders
NEEDHAM 2 engines 1 ladder
NATICK 3 engines 1 ladder
MILTON 2 engines 2 hose 1 ladder
QUINCY 6 engines 5 ladders 1 special duty
N
Map does not show special duty or reserve apparatus not regularly manned
Scale in Miles
0 1 2 3 4 5

showing the town from which the call was received followed by the box number. Other towns not directly adjoining the town where the fire occurred then know that they must cover for the apparatus which has gone to the fire even though they have no interest in the original fire call.

With mutual aid obtained through regular fire alarm connections, the smaller departments can provide assignments of apparatus for serious hazards more nearly equal to what would be provided for a similar hazard in a large city. For example, a small department with only two or three companies can assign apparatus to alarms from factories and other large values and hazards, in the same force as a city would send to equal hazards.

In most communities a second or general alarm brings very little additional equipment because most of the department has already answered the first call. With the help of mutual aid a second or third alarm brings enough apparatus to permit an effective attack on threatening fires before they have had a chance to get out of control. Another advantage is that when any special equipment such as ladder trucks, lighting or rescue apparatus is needed it can be summoned from neighboring departments by transmitting special signals over the fire alarm circuits.

The larger cities co-operating in the plan also benefit. In the case of simultaneous large fires their vacated stations will be covered. When a large fire occurs near the edge of the city it is no longer necessary to race apparatus long distances across the city to reach the fire. Instead nearby companies from just across the city line arrive as quickly as the local apparatus.

The local fire chief who is the most familiar with all hazards and conditions in his own territory is the boss at all fires. However, instead of being limited to the fire fighting forces in his municipality, he has at his disposal the collective resources of his neighboring departments.

The response of fire companies from the smaller departments to additional alarm fires in the cities gives the smaller departments more frequent experience in working at large fires than they would obtain if they were confined to their own community.

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The ultimate in fire protection equipment — for use in winter months (as well as summer) and which both fire departments and private industry are recognizing as the last word in chemical fire extinguishment.

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Volunteer Firemen

Volume 6 **Number 2**

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Horatio Bond — **Chief Engineer**
Warren Y. Kimball — **Associate Editor**

Please notify us promptly of any change of address

February, 1939

VOLUNTEER firemen throughout the United States have lost one of their best friends and fellow workers through the untimely death of Professor Robert B. Criswell in charge of Fire Service Extension at the University of Maryland. Professor Criswell died of a heart attack at his home in Hyattsville, Maryland, on January 3, 1939. He was 48 years old and leaves a wife and three children.

"Bob" Criswell, or "Cris" as he was known to thousands of fire fighters all over the country, was a pioneer in the field of training for volunteer firemen. From 1930 to 1937 as an engineer of the Ohio Inspection Bureau he served as an itinerant instructor and fire school instructor in Ohio and West Virginia. In addition, he was a familiar figure at many other firemen's training programs. He developed a course in practical firemanship for small departments.

In 1937 Bob Criswell went to Maryland to take charge of a permanent year-round program of firemen's training. The amount of work which he accomplished during the past year is a tribute to his zeal for fire service training. Officers and men representing 78 fire companies completed his basic training course. In addition, with his assistant instructors, he conducted drills which contacted practically all of the 10,000 volunteer firemen in the state. One hundred thousand sheets of mimeographed instruction and fire prevention material went out from his office including a compilation of all the departments.

It is fair to say that Professor Criswell gave his all for the advancement of firemen's training. On the very night of his death, although feeling ill, he went out to talk before a group of firemen at Frederick, Maryland. Professor Criswell was a member of the important N. F. P. A. Committee on Farm Fire Protection which deals with rural fire department matters. He was particularly helpful to the editors of VOLUNTEER FIREMEN as an adviser on articles about firemen's training work.

LAST month 27 departments with 549 men joined the Volunteer Firemen's Section for the first time. In addition 66 fire departments with 1451 men renewed membership. The total membership for the Section is now 617 departments and 13,634 firemen. The following were enrolled in the past month:

Fortuna Fire Department, Fortuna, California.
Pine Meadow Fire Company, Inc., Pine Meadow, Connecticut.
Watertown Fire Department, Watertown, Connecticut.
Galveston Volunteer Fire Department, Galveston, Indiana.
Lake Zurich Fire Department, Lake Zurich, Illinois.
Garrett Fire Department, Garrett, Indiana.
Garden City Fire Department, Garden City, Kansas.
South Hadley Fire Department, South Hadley, Massachusetts.
Jordan Fire Department, Jordan, Minnesota.
North Brunswick Engine Company No. 1, New Brunswick, New Jersey.
Bohemia Fire Department, Bohemia, New York.
Carrington Fire Department, Carrington, North Dakota.
Hatton Fire Department, Hatton, North Dakota.
Dominion Volunteer Fire Department, Dominion, Nova Scotia.
Community Volunteer Fire Department, Cadiz, Ohio.
Warrensville Heights Fire Department, Warrensville Heights, Ohio.
Park Rose Fire Department, Portland, Oregon.
Fairview Volunteer Fire Department, Inc., Bellevue, Pennsylvania.
Friendship Fire Company No. 1, Mount Joy, Pennsylvania.
Quarryville Fire Company, Quarryville, Pennsylvania.
Good Will Fire Company No. 2, West Chester, Pennsylvania.
Woonasquatucket Valley Firemen's League, Marieville, Rhode Island.
Pierre Fire Department, Pierre, South Dakota.
American Legion Volunteer Fire Department, Carrizo Springs, Texas.
Petersburg Fire Company, Petersburg, West Virginia.
Kohler Fire Department, Kohler, Wisconsin.
Twin Lakes Volunteer Fire Department, Twin Lakes, Wisconsin.

. . . *to* WHAT?

ALL TOO OFTEN you have seen buildings burn to the ground...comrades risk their lives...in battles that were hopeless from the outset...and usually because of just a few minutes' delay in discovering and reporting the outbreak.

When you "roll" under the handicap of belated discovery or a delayed alarm from a high-value occupancy, the blame belongs on the owners...for failure to provide proper protection. The A.D.T. Aero Automatic Fire Alarm eliminates the hazards of belated discovery and delayed alarm, because it detects fire *automatically* the instant it starts, and automatically and accurately transmits the alarm by private wire direct to the fire department.

The Aero System is not confined to large cities, but is available for any type or size of building anywhere in the United States. If you have any "fire traps" in your community, where belated discovery or a delayed alarm would mean a hopeless, dangerous battle, let us know and we will gladly cooperate with you in consulting the owners about Aero Protection.

Write A.D.T., 155 Sixth Avenue, New York, for descriptive booklets.

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Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Avenue, New York, N. Y.*

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AGAINST FIRE · BURGLARY · HOLDUP

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• Consumes less current than a car heater or radio. Available in two models, the "V" in chrome, the "O" in black duco. Complete with foot switch and cable.

Model "O"

The New VOLUNTEER

Model "O", Black, only $14.00
Model "V", Chrome, only $15.00

Tear off this coupon and mail TODAY!

Federal Electric Company, Inc.,
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Send me a Volunteer Siren, Model ....., Priced at ..... for 10 day trial.

Name & Title .....

Address .....

Town ..... State .....

Can be returned in ten days for full credit, if not satisfactory.

$10.00 EASY MONEY

PYRENE PRIZE LETTER CONTEST

NO persons are in a better position to judge the effectiveness of approved fire extinguishers than the fellows who use them. That is why in the Pyrene Prize Letter Contest firemen win cash prizes for telling of actual cases where extinguishers saved a life or made a good stop. If you know of a fire where good work was done with an extinguisher just tell the facts in your own way. However, be sure to tell whether the extinguisher used was a carbon-tetrachloride, soda-acid, foam, carbon dioxide or other type of unit. It is not necessary to tell the make of the extinguisher but the judges want to know the type of approved unit with which the job was done. The contest is sponsored jointly by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN.

FIRST PRIZE—$10.00

FRANK HART

Fire Department, Philip, S. D.

Oil Bulk Plant Fire

"Some years ago my father and I were operating an oil bulk plant. We had a gasoline engine at one corner of the warehouse for pumping flammable liquids from railroad tank cars to storage tanks. At times we would have to use the engine to load our tank trucks. One Sunday morning I started to load a truck and found I had to use the engine. The engine had been in the same place for several years and the platform was soaked with oil. The engine backfired and set fire to the entire platform. The flames were leaping against the warehouse door which luckily was shut. I tried to jerk the engine loose but the flames were too severe. A neighbor saw my trouble and got a 1-quart carbon tetrachloride extinguisher from his truck. He had the fire out when the fire department arrived. But for this extinguisher we would have lost the whole plant including 17,500 gallons of gasoline, 12,500 gallons of kerosene, and 10,000 gallons of oil. The next morning we bought five 1-quart carbon tetrachloride extinguishers."

SECOND PRIZE—$3.00

CARL W. HOFFMAN

Volunteer Fire Co. No. 1, West View, Pa.

Killed Roof Fire

"As I was driving home from work one morning about 1 A. M. I happened to see flames coming from the roof of a three-story frame house. I immediately awakened the people and told them their house was on fire and to call the fire department. While waiting for the apparatus I asked them for a bucket of water and went up on the roof and tried to put the fire out. There was not enough water in the bucket so I called for more water or a fire extinguisher. They had a soda-acid extinguisher which I then used and put the fire out. It was at least 20 minutes before the fire company arrived to find the fire out."

THIRD PRIZE—$2.00

THOMAS J. NOLAN, SR., *Chief*

Fire Department, West Albany, N. Y.

A Christmas Fire!

"Although it may seem strange, I as chief of our local fire department was nearly forced to call the department to extinguish a fire in my own home. The incident occurred on last Christmas eve. As usual my family was in the living room trimming the Christmas tree. We were all moving about when suddenly my son backed into the oil heater and pushed it over. The oil escaped through the refill cap which was forced open and the fire spread as the oil leaked out. I quickly went for the 1-quart carbon tetrachloride extinguisher which I have in my home. As soon as I applied part of the contents of the extinguisher, the fire was quickly extinguished. If I had not had this extinguisher in the house our Christmas would have been a sad one. During my years of fire fighting experience I have found that much loss and sorrow could have been avoided if only an extinguisher was present in homes and was used promptly when a fire started. Since this experience I advise everyone to have an extinguisher in their home."

HONORABLE MENTION

E. P. DAVIS, *Assistant Chief*, Fire Department, Brenham, Texas.

ALVIN FULCER, Volunteer Fire Department, Kimberly, Wisconsin.

FLOYD P. MEEK, *Chief*, Volunteer Fire Department, Independence, Ohio.

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where an approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

M·S·A

ALL-SERVICE GAS MASK
(BURRELL TYPE)

CONSERVES MAN-POWER WHEN NEEDED MOST

Adequate protection of firemen entering gaseous atmospheres is essential by every consideration—not least of which is the necessity to *maintain numerical strength* of the force responding to an alarm. The famous M.S.A. All-Service Mask permits men to work safely and efficiently in the presence of combinations of carbon monoxide and all other poisonous industrial gases, fumes and smoke, with complete comfort and freedom. It is the *only* canister-type mask approved by the U. S. Bureau of Mines for protection against these hazards. ● Investigate this all-purpose protection—the finest available! Write for details now—a demonstration can be arranged whenever you wish.

1914 . . . 25 Years of Safety Progress . . . 1939

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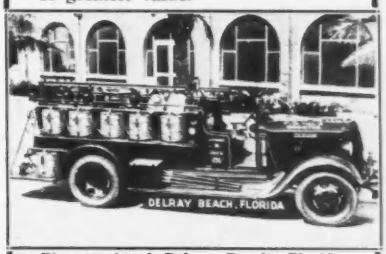
Braddock, Thomas & Meade Sts., Pittsburgh, Pa.
District Representatives in Principal Cities

"One Man With AN INDIAN

Does the work of 4 with brooms and shovels"

That's what L. W. Cook, Chief of Delray Beach, Florida, Fire Department, says about his INDIAN FIRE PUMPS. Here is Chief Cook's letter:

"Our booster apparatus is equipped with many INDIAN FIRE PUMPS to meet our grass fire problem. Thanks to our INDIANS this is the first year we have had no fire loss during our grass fire season. We now extinguish fires with 5 men that took 20 or more with the old method of brooms and shovels thus reducing the cost 75%. We surely have found the INDIANS of greatest value."



Fire truck of Delray Beach, Florida, fire department equipped with twelve INDIAN FIRE PUMPS, six on each side.

In addition to using INDIANS on all grass fires, many departments rely on them instead of the chemical type for spot roof and chimney fires, overheated stoves, room and partition fires, rubbish fires, etc. No piece of equipment has the many uses of INDIAN FIRE PUMPS. Made strong for hard use. New Rust-Proof Tank.

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Membership in the N.F.P.A.
for Your Company or Department

Membership with unusual advantages is available to fire companies and fire departments through the Volunteer Firemen's Section of the National Fire Protection Association. Here's the simple plan:

Your company or department applies for regular membership in the N. F. P. A. and pays the minimum $10 annual dues. When the application is accepted, the company or department begins to receive at headquarters the monthly bulletins and publications sent regularly to all members of the Association. Also comes a 100-page *Quarterly* Magazine (four times during the membership year), a volume of annual Proceedings (over 400 pages), a Directory of members, and an Index to printed publications. You thus build up a nice fire library. Membership also places at the disposal of the company or department the Information Service of the Association which from its voluminous files answers special inquiries from members free.

Membership Plan Includes VOLUNTEER FIREMEN for Your Company or Department

The publications and services enumerated above are what regular N. F. P. A. members get for their $10 annual dues. The special membership plan of the Volunteer Firemen's Section provides that *in addition* you get VOLUNTEER FIREMEN magazine for the men in your company or department. (The $10 minimum dues allows you to enroll up to 20 men to receive the magazine: 50c per year extra for each man in excess of 20 enrolled.) VOLUNTEER FIREMEN is mailed to each man's home address.

USE THIS COUPON FOR SPECIAL MEMBERSHIP PLAN

If your company or department is now a member, pass this coupon to some other company or department which might like to enjoy the benefits of this plan.

National Fire Protection Association, 60 Batterymarch St., Boston, Mass.:
Please send me a membership application blank. I am interested in your special membership plan for our company or department.

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(Chief, Sec'y, Capt., etc.)

Name of Company or Department .....

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Earnings depend upon production. Fire interrupts the continuity of business and is reflected in the loss of uninsurable values far greater than the replaceable physical values destroyed. *Delays* in *discovery* and *announcement*—the principal causes of large Fire Losses—are minimized by Gamewell Fire Alarm Systems.

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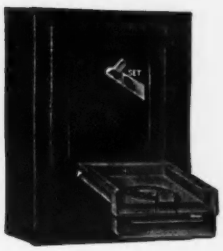

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